COVER SHEET

DEVELOPMENT RESEARCH FOR INTERSCHOOL BENCHMARKING

Martin Skitmore
School of Construction Management and Property
Queensland University of Technology
Gardens Point
Brisbane Q4001

AUBEA 1997 Annual Conference, Auckland, New Zealand

10 July 1997

DEVELOPMENT RESEARCH FOR INTERSCHOOL BENCHMARKING

Martin Skitmore, School of Construction Management and Property, Queensland University of Technology, Gardens Point, Brisbane Q4001, Australia.

ABSTRACT: Research is described aimed at developing a benchmarking system for University Schools of Construction Management. This follows a standard empirical approach in soliciting views and requirements from a group of stakeholders comprising the Australasian Universities Building Education Association Heads of Schools. These views were analysed and consolidated into a set of 34 benchmarks and associated likely data sources. Following a pilot study investigating the data collection logistics involved, these were reduced down to a set of 20 tables capable of being produced by each participant over a reasonably short period. As a result, the stage has now been reached where the tables have been completed by several of the participants for consolidation into a benchmark publication.

Keywords: Benchmarking, interschool comparisons, statistical summaries.

INTRODUCTION

As a result of pressures for increased efficiency, many Universities now have adopted goal oriented management practices in order to better focus attention on what they are trying to achieve. As a result, University mission statements abound. In many cases, the key word is "excellence". Excellence in teaching. Excellence in research. Excellence, it seems in almost everything. Of course this is a laudable goal. What can be better than the achievement of excellence?

Excellence, however, means perfection for many of us- and perfection, as we all know is an ideal. Ultimate perfection cannot be achieved in the 'real world'. Even getting close to perfection is a vastly resource consuming task. The old painting masters would spend a life-time trying to get close to perfection. Today, most specialists in, say, statistics or philosophy, reckon on at least 10 years to become reasonably proficient even within their narrow discipline.

In business, perfection at any cost cannot and is not a goal. Everything has to be weighed against the resource implications involved. For most, if not all, 'good enough' is good enough. As theoretical economic goals have changed over the years from maximising to optimising to satisficing, the resource implications involved have become increasingly part of the equation.

Benchmarking follows satisficing in one of the latest in these progressive moves towards real-world management. Instead of treating goals as ABSOLUTE to ourselves, current moves are towards the more realistic approach of treating goals as RELATIVE to others, especially competitors. Benchmarking recognises that we do not have to achieve perfection to win, but merely do better than our competitors. This represents a shift in thinking of many orders of magnitude. THE COST OF PERFECTION IS INFINITE but the cost of just being better than others is within reach (usually).

At University School (or Department, depending on the terminology) level, the same exists. Perfection in teaching or research is simply not a realistic goal as it is infinitely expensive to achieve. Perfection in teaching AND research is doubly infinitely expensive (for those pedantic enough to be interested, two infinities is no different to one infinity - power infinities are

however, but that is another story). Either way, Universities are not funded well enough these days for infinite expenditure to happen as University academic staff, who are even greater distanced from infinite salaries than Vice Chancellors, are only too painfully aware. The perceived reality for all of us then is 'good-enough' performance based on 'not-enough' resourcing.

Benchmarking at University School level then offers a meaningful, useful and, perhaps, the only, way of addressing the current University situation in a positive light. No matter how badly an individual School feels it is achieving, it is only by comparing itself with other Schools it REALLY knows the truth - it might be the best among equals.

BENCHMARKING CONSTRUCTION MANAGEMENT SCHOOLS

The process of benchmarking is well documented (eg Evans, 1994). Every Airport bookshop contains books describing the basics in everyday language. Benchmarking in the academic world is less well documented, but moving fast. For Schools of Construction Management, however, it is virtually non-existent.

The main task in benchmark planning is to establish what it is that we wish to examine. Do we wish to look at student numbers (as a measure of course popularity), student pass rates (as a measure of educational achievement), student exit surveys (as a measure of student satisfaction), or numbers of research papers (as a measure of research output), external research grants (as a measure of reliability of delivery, innovation, etc), numbers of research students, or whatever?

To start to address this question is a research issue. As with all research, there are two distinct approaches - theoretical and empirical. The theoretical approach implies that a theory, stated or implied, is used to identify the information needed. In the case of academic Schools, this means starting with the mission statement and then translating this into targets from which data can then be collected concerning the targets. This, however, depends on the mission statement and therefore the targets being aligned to the directions of the Schools activities. There is ample anecdotal evidence to show that such an alignment is not very close. Quite why this is the case is worthy of a research project in its own right and way beyond the scope of this paper. The alternative, empirical, approach is essentially bottom-up and involves finding out what individuals feel to be relevant, independent of what their actual goals may be. Indeed, from this approach it is possible to eventually identify the individuals' implied goals. With this in mind, the empirical method seems to offer the best prospects and was used in the research described in this paper.

The next question of vital and pragmatic importance is that of data collection. As with all empirical studies, the costs of data collection must be considered. This means that some trade-off has to take place between the usefulness of the data and the costs of its collection. Where very useful data can be acquired very easily and cheaply and vice versa, the solution is simple and all we have to do is to draw the line at some point where the costs are getting uncomfortable. Where very useful data is expensive, the solution is not so simple. What is needed therefore is some means of measuring 'usefulness' and some means of measuring 'costs'. There can be no simple means for doing this. Indeed, it is an empirical issue itself. In the case of Construction Management, where no previous work has been solely dedicated to this, it is only by

experimentation that the empirical evidence can be accumulated to resolve this. In other words, some 'obvious' data needs to be collected, used and then evaluated for usefulness and cost content as an aid to continual refinement of the data collection process. There is, however, a paradox in this in that the type of benchmarking data collected, by definition, needs to be stable over a period of time for useful cross-School comparisons to be made. This runs counter to the need the refine the type of data collected for the benchmarking in light of the data collected in evaluating its use. There seems to be no immediate solution to this paradox. As a result, it must be expected that the earlier iterations in the process will not be useful as benchmarks initially although they are useful in the development of the benchmarking process. In other words, the development of a benchmarking system by these empirical means, must rely on an investment of resources over several iterations until its evolution is complete. This assumes, of course, that the basic activities that are being benchmarked are stable over time, otherwise the benching development process can never be finalised - perhaps the most severe criticism of benchmarking itself, as such an assumption is seldom justified in a dynamic world.

The final issue to resolve is that of communication of the benchmarking data to stakeholders. The form that this communication takes is clearly crucial to its use and depends dramatically on the use to which the various stakeholders intend. Again, though, this is an empirical issue that can be treated by survey methods and can form a further part of the development process. It raises also the same issues of stability. This time on the stability of the stakeholders needs. If these needs change, the potential gains of benchmarking cannot be achieved and much time and effort will be wasted. Only time will tell if this is the case in Construction Management benchmarking.

RESEARCH METHOD

Bearing in mind the reservations noted above, a study has been undertaken involving the all of the 20 Schools participating in the Australasian Universities Building Education Association. This has comprised several stages:

1Agreement in principle to undertake an annual benchmarking study across all the Schools.

2Selection of Queensland University of Technology's School of Construction Management and Property to coordinate the benchmarking process development

3Solicitation of opinions, via electronic mail, from the various Heads of Schools as to their informational needs arising out of the benchmarking and the benchmarks they think will be most appropriate.

4Analysis of these responses into appropriate categories of generic data requirements and reporting to participants.

5Validation of the results arising out of stage 4.

6Initial consideration of the extent, usefulness and costs of collection of the proposed data.

7Pilot data collection by the project coordinator and reporting to participants

8Modification of data collection as a result of stage 7 and further pilot data collection by two other Schools.

9Further modifications arising out of stage 8, and main data collection.

LIST OF CANDIDATE BENCHMARKS

A tentative list of benchmarks was proposed verbally at the first meeting of the participants. This was supplemented by a round robin request to all the participants by e-mail and fax, and with a subsequent follow up fax. This resulted in the following comprehensive list of suggested benchmarks:

1Staff/student ratios
2Number of full-part time students
3Research student statistics
4Community service
5Academic staff loads
face to face teaching/week
research output eg grants and their $ value
administration and community outreach contributions and the % that each of the above should be for the various levels of appointment
6Student mix
undergraduate: full time versus part time
postgraduate: coursework vs research
fee paying vs DEET funded
and the % mix across the school
7Staff-student relationships
eg number of academic staff appointments/EFTSU
8Published research output/staff member, via some standard index (eg AVCC's)
9Teaching work load, via a standard measure that covers student contact hours, class size etc
10Funding breakdown/DEET funded student and International student
to the university, then to
the department for ug, pg and research students
11Standard facilities provided to students of various types
12Services provided to staff by central admin to department and how charged, eg., secretarial, library staff, admin, enrolment, marketing, international support, computing support, remedial language, learning skills support, etc.
13Funding provided to staff for conferences, research, computers, books and journals, etc.
14University and departmental expectations and requirements for
appointments
promotions at various levels
15Research dollars per annum fro external sources, ie., excluding any self-financing of research by faculty. To include ARC small and large grants (hard cash only, in-kind contributions to be excluded)
16Full fee paying income to department - or if this is too commercially sensitive some form of proxy which indicates quantum of full fee activity

17Publications output - using DEET definitions for Journals, refereed papers etc.
18student-staff ratio
19Study leave activity - particularly overseas activities.
20Building industry links. Could include number of guest lecturers from the industry/profession, number of Adjunct Professors, resources contributed by industry to support students of postgraduates, scholarships.
21Quality assurance procedures. Unit material - how do you measure quality? Is it the number of written pages, the range of media used to transmit material units in distance ed mode, industry and profession relevance groups and their involvement with course development and guidance.
22Staff-student ratios
23Staff quality - number of higher degrees, number of invitations to lecture as a guest, publications, experience profile (level A,B,C,D,E)
24Employment record of students - % employed within 3 months of graduation?
25Graduate satisfaction! Professional schools did not fare well in a recent survey
26Student-staff contact time
27Library holdings
28Research quantum
29Square metres/student. Hard to measure because a lot of the space used is university common teaching space.
30Equipment, eg., computers/student, number of MB/student
31Applicant/quota ratio
32Postgraduate/undergraduate ratio
33Contact hours in the degree course
34Completion or retention rate
35Course format (number of academic years, industrial experience requirements, accreditation information, etc)
36EFTSUs per course
37Total number of students enrolled in overall course on annual basis
38Total number of full fee paying students included within enrolment
39Annual number of graduating students
40Number of full-time employees (academic/general/technical)
41Number of part-time employees (academic/general/technical)
42Staff-student ratio (separately against full-time and also part-time staff in each described category)
43Total number of hours of student contact time for course and in each year
44Ratio of number of full-time academic staff to total number of hours of student contact time for course (plus same for part-time academic staff)
45Grades of students - SWA for each course year
46Advanced standing awarded to students, perhaps expressed as a percentage of course credits per graduating student
47Graduate Careers Council Data (GCCA). Covers teaching, workload, assessments etc - six categories in all including overall course satisfaction

Although not a complete response, it was thought to be sufficient at this stage. The next task was to categorise the responses. This was done in an arbitrary manner based on the researcher's experience in the field and the nature of the data collected. As a result of this it was possible to identify any duplications, eg., staff-student ratios. These also provided some measure of

importance or priority of the proposed benchmarks. This produced the following revised list (with number of duplications marked in brackets):

Course/student information

Per ug and pg course year
1Total number of hours of student contact time (2)
2Face to face teaching/week (2)
3Industrial experience requirements (1)
4Accreditation information (1)
5Applicant/quota ratio (1)
6Total number of students enrolled (1)
7Number of full-time and part-time students (1)
8Fee paying vs DEET funded students (1)
9Advanced standing awarded to students, eg % course credits per graduating student (1)
10Grades of students - SWA (1)
11Retention rate (1)
12Number of EFTSUs (1)

Per ug and pg course: as ug and pg course year plus
13Staff/student ratios per full and part-time staff (5)
14Teaching work load, via a standard measure that covers student contact hours, class size etc (GCCA stats?) (4)
15Annual number of graduating students (2)
16Graduate satisfaction! (GCCA stats?) (2)
17number of academic years (1)
18Employment record - % employed within 3 months of graduation? (1)
19Ratio of number of full-time academic staff to total number of hours of student contact time for course (plus same for part-time academic staff) (1)

Per pg course only
20Number of coursework and research students (2)

Per school
21Fee paying vs DEET funded students (2)
22Total number of students enrolled/year (1)
23Pg/ug ratio (1)

Staffing

Generally
24Criteria for appointments and promotions (1)
25Experience profile (level A,B,C,D,E) (1)
Number of
26full-time employees (academic/general/technical) (1)
27part-time employees (academic/general/technical) (1)

28academic staff/EFTSU (1)
29higher degrees (1)
30invitations to lecture as a guest (1)

Administration
31Administration contributions and the % that each of the above should be for the various levels of appointment (1)

Research Output
32Publications - using DEET and/or AVCC definitions for Journals, refereed papers etc. (3)
33Internal grants and their $ value (1)
34Research dollars per annum from external sources, ie., excluding any self-financing of research by faculty. To include ARC small and large grants (hard cash only, in-kind contributions to be excluded) (1)

Community service
35Building industry links. Could include number of guest lecturers from the industry/profession, number of Adjunct Professors, resources contributed by industry to support students of postgraduates, scholarships. (1)
36Community outreach contributions and the % that each of the above should be for the various levels of appointment (1)

Funding

37Full fee paying income to school - or if this is too commercially sensitive some form of proxy which indicates quantum of full fee activity (1)
38Funding breakdown/DEET funded student and International student (a) to the university, then (b) to
the school for ug, pg and research students (1)
39Research quantum (1)

Facilities

Generally

40Library holdings (1)

To students
41Standard facilities provided to students of various types (1)
42Square metres/student. Hard to measure because a lot of the space used is university common teaching space. (1)
43Equipment, eg., computers/student, number of MB/student (1)

To staff

44Services provided to staff by central admin to department and how charged, eg., secretarial, library staff, admin, enrolment, marketing, international support, computing support, remedial language, learning skills support, etc. (1)

45Funding provided to staff for conferences, research, computers, books and journals, etc. (1)
46Study leave activity - particularly overseas activities. (1)

Quality assurance

47Quality assurance procedures. Unit material - how do you measure quality? Is it the number of written pages, the range of media used to transmit material units in distance ed mode, industry and profession relevance groups and their involvement with course development and guidance. (1)

The above list failed to separate primary data (ie that which needs to be collected) from secondary or derived data (ie that which can be derived from the primary data without any further data collection being needed). The next part of the analysis therefore aimed to separate primary from secondary data to estimate the amount of data collection needed for a comprehensive benchmarking system to be developed. The results of this follow:

Primary data **Derived data**

Course/student information

Per ug and pg course year
1Student contact time: (2)
Full-time
Part-time
3Industrial experience requirements (1)
4Accreditation information (1)
5Applicant/quota ratio (1)
6Total number of students enrolled (1)
7Number of students/EFTSU: (2)
Full-time
Part-time
Fee-paying
DEET funded
8Fee paying vs DEET funded students (1)
9Advanced standing awarded to
students, eg % course credits
per graduating student (1)
10Grades of students - SWA (1)
11Retention rate (1)

Per ug and pg course: as ug and pg course year plus
13Staff/student ratios:
per full-time staff (5)
per part-time staff (5)
14Teaching work load, via a standard measure that covers student contact hours, class size etc (GCCA stats?) (4)
15Annual number of graduating students (2)
16Graduate satisfaction!

(GCCA stats?) (2)
17number of academic years (1)
18Employment record - % employed
within 3 months of graduation? (1)
19Ratio of number of full-time academic staff to total number of hours of student contact time for course (plus same for part-time academic staff) (1)

Per pg course only
20Number of coursework and
research students (2)

Per school
21Fee paying vs DEET funded students (2)
22Total number of students enrolled/year (1)
23Pg/ug ratio (1)

Staffing

Generally
24Criteria for appointments and
promotions (1)
25Experience profile
(level A,B,C,D,E) (1)
Number of:
26full-time employees (academic/
general/technical) (1)
27part-time employees (academic/
general/technical) (1)
28academic staff/EFTSU (1)
29higher degrees (1)
30invitations to lecture as a
guest (1)

Administration
31Administration contributions
and the % that each of the above
should be for the various levels
of appointment (1)

Research Output
32Publications - using DEET and/or
AVCC definitions for Journals,
refereed papers etc. (3)
33Internal grants and their $
value (1)
34Research dollars per annum from

external sources, ie., excluding
any self-financing of research by
Faculty. To include ARC small and
large grants (hard cash only,
in-kind contributions to be excluded) (1)

Community service
35Building industry links. Could
include number of guest lecturers
from the industry/profession, number
of Adjunct Professors, resources
contributed by industry to support
students of postgraduates,
scholarships. (1)
36Community outreach contributions and
the % that each of the above should
be for the various levels of
appointment (1)

Funding

37Full fee paying income to school - or
if this is too commercially sensitive
some form of proxy which indicates
quantum of full fee activity (1)
38Funding breakdown/DEET funded student
and International student (a) to the
university, then (b) to the school for
ug, pg and research students (1)
39Research quantum (1)

Facilities

Generally

40Library holdings (1)

To students
41Standard facilities provided to students
of various types (1)
42Square metres/student. Hard to measure
because a lot of the space used is
university common teaching space. (1)
43Equipment, eg., computers/student,
number of MB/student (1)

To staff

44Services provided to staff by central admin to department and how charged, eg., secretarial, library staff, admin, enrolment, marketing, international support, computing support, remedial language, learning skills support, etc. (1)
45Funding provided to staff for conferences, research, computers, books and journals, etc. (1)
46Study leave activity - particularly overseas activities. (1)

Quality assurance
47Quality assurance procedures. Unit material - how do you measure quality? Is it the number of written pages, the range of media used to transmit material units in distance ed mode, industry and profession relevance groups and their involvement with course development and guidance. (1)

The last stage involved reducing the number of benchmarks needed to a satisfactory level. Also, some of the measures were not yet firmly defined. It was hard to do this without making arbitrary decisions. Further participation was therefore needed. In order to make this as simple as possible, but still retain as much as possible from the analysis so far, the main themes were retained with the measures suggested for selection by the participants. The derived data were omitted at this stage for brevity.

Theme	**Suggested measure options**
Course/student information	
Per ug and pg course year	
1Student contact time	Face-to-face hours, timetabled hours, gross hours
Full-time	
Part-time	
2Industrial experience requirements	Weeks, months
3Accreditation information?	
4Number of students	EFTSU, bums on seats, GCCA stats, international, gender
Full-time	
Part-time	
Fee-paying	
DEET funded	
5Advanced standing awarded to students	% course credits per graduating student (1)
6Grades of students	SWA
7Retention rate	EFTSU increase, exam passes

Per ug and pg course: as ug and pg course year plus
8Staff/student ratiosFTSE/EFTSU, timetabled lecturers/bums on seats
per full-time staff
per part-time staff

9Graduate satisfaction!GCCA stats?
10Employment record% employed within 3 months of graduation? (1)

Per pg course only
11Number of studentsEFTSU, BOS, international, gender
Coursework
Research

Staffing

Generally
12Criteria for appointments and promotions?
13Experience profilelevel A,B,C,D,E
Number of
14full-time employees (academic/general/technical)FTSE, people
15part-time employees (academic/general/technical)FTSE, people
16higher degreesGCert, GDip, MSc, Phd
17invitations to lecture as a guest number, ind/acad, home/abroad

Administration
18Administration contributions and the % that each
of the above should be for the various levels of
appointmenthours, % time

Research Output
19PublicationsDEET and/or AVCC definitions for Journals, refereed papers etc
20Internal grantsNumber, $ value
21External incomeNumber, $ value ie., excluding any self-financing of research by faculty. To include ARC small and large grants (hard cash only, in-kind contributions to be excluded)

Community service
22Building industry links.number of guest lecturers from the industry/profession, number of Adjunct Professors, resources contributed by industry to support students of postgraduates, scholarships.
23Community outreach contributions% that each of the above should be for the various levels of appointment

Funding

24TotalFull fee paying $ to school - or if this is too commercially sensitive some form of proxy which indicates quantum of full fee activity.

25Funding breakdownDEET funded $ student and International student (a) $ to the university, then (b) $ to the school for ug, pg and research students
26Researchquantum $

Facilities

Generally
27Library holdingsNumber of books, periodicals, reports, theses/dissertations

To students
28Standard facilities provided to students of various typesNumber of computers, e-mail access, WWW access, labs
29SpaceSquare metres/student?
30Equipmentnumber of MB

To staff

31Services provided to staff by central admin to department and how chargednumber/hours of secretarial, library staff, admin, enrolment, marketing, international support, computing support, remedial language, learning skills support, etc.
32Funding provided to staff for conferences, research, computers, books and journals, etc.$ per activity
33Study leave activityNumber of trips, total weeks/months
home
overseas

Quality assurance
34Quality assurance proceduresUnit material - how do you measure quality? Is it the number of written pages, the range of media used to transmit material units in distance ed mode, industry and profession relevance groups and their involvement with course development and guidance.

VALIDATION

At this stage the participants were consulted to validate the work so far. This involved:

1Checking the above lists for any obvious missing items.

2Agreeing the maximum number of benchmarks.

3Prioritising of the above 34 items up to the maximum agreed in 2 above.

4Agreeing the measures to be used for each of these up to the maximum agreed in 2 above.

5Agreeing the 'derived data' requirements.

6Agreeing a method of collecting the required primary data.

As a result of this it was decided to adopt the full list of 34 benchmarks, without reduction, thus obviating the need for prioritisation. Because of the participants' lack of experience in this area, it was not possible to agree the derived data requirements at this stage. Instead, this would be taken care of in the following pilot study.

PILOT STUDY

A pilot study was carried out intermittently by an administrator in the author's School. This involved the administrator attempting to collecting data for the 34 benchmarks relating to the previous year of the School's activities. Particular attention was paid to ease of data collection and easily accessible sources of reasonably reliable data were always chosen in preference to other, perhaps more reliable, sources. The criterion used for 'ease and reasonableness' in this exercise was anything that did not end up in an administrator's 'too hard' basket. In the end this was to prove a crucial factor in the development process.

Progress was slow and, after a period of 6 months, the following point had been reached:

Theme	**Measures**
Course/student information	
1Student contact time	Full and part-time student contact time aggregated by course
2Industrial experience requirements	Tabulated descriptions by course, full/part-time modes
3Accreditation information	Not done
4Number of students	DEET returns comprising number of enrolments and EFTSU per year (1991-5), by course (ug and pg), full/part-time, male/female, HECS/full-fee
5Advanced standing awarded to students	Not done
6Grades of students	Not done
7Retention rate	Course attrition index by course, full/part-time, male/female, employment kind
8Staff/student ratios	DEET collection by year (1992-5)
9Graduate satisfaction!	Not done
10Employment record	Destinations per year (1992-5) by work/study/other
11Number of pg students	Covered in 4 above
Staffing	
Generally	
12Appointments and promotions criteria	Extract from QUT Manual of Procedures
13Experience profile	Not done

Number of		
14	full-time employees	DEET returns by person/FTE, year (1992-5), casual/full-time/FFT, level
15	part-time employees	Covered in 14
16	higher degrees	QUT stats by qualification
17	invitations to lecture as a guest	Not done

Administration

18	Administration contributions	List of charges by facility provided

Research Output

19	Publications	DEET collection by year (92-3/93-4) by type. Research Centre stats for 95 (all DEET categories)
20	Internal grants	Not done
21	External income	DEET collection average research income by year (92-3/93-4), competitive/other PS/industry & other. Research Centre stats for 1995

Community service

22	Building industry links.	Not done but available through SCM
23	Community outreach contributions	Not done

Funding

24	Total	Faculty budget by year (95/6)
25	Funding breakdown	QUT stats + Faculty by course
26	Research	QUT stats

Facilities

Generally

27	Library holdings	Available only in $ budget figure for School by year

To students

28	Standard facilities	Number of computers only available by 386/486/pentium, coursework/research students/other
29	Space	QUT stats give gross and net floor area used by SCM by room type and function
30	Equipment	Only as 28

To staff

31	Services provided central admin	Covered in 18
32	Funding provided to staff	SCM bu 2 (conferences, computers and books/ journals)
33	Study leave activity	Not done

Quality assurance

34	Quality assurance procedures	Not done

At this point, the Head of School undertook to finish off the pilot study from information at his own disposal. This was completed in one day and resulted in the final revised version comprising 20 tables (available from the author).

MAIN STUDY

The final 20 tables were sent to all the participants early in 1997 to report on activities and status in 1996. Several of these have now been returned and the task of consolidating these is about to commence. It is anticipated that a full set of consolidated benchmark tables will be available for publication later this year.

CONCLUSIONS

This paper describes research aimed at developing a benchmarking system for University Schools of Construction Management. The research follows a standard empirical approach in soliciting views and requirements from a group of stakeholders comprising the Australasian Universities Building Education Association Heads of Schools. These views were analysed and consolidated into a set of 34 benchmarks and associated likely data sources. Following a pilot study investigating the data collection logistics involved, these were reduced down to a set of 20 tables capable of being produced by each participant over a reasonably short period. As a result, the stage has now been reached where the tables have been completed by several of the participants for consolidation into a benchmark publication later this year.

In aiming to use empirical research methods to develop the system, several problems and issues have arisen. The most important of these is the severe lack of experience and resources available at University School level to fully contribute to the development process. Pressure in day-to-day School administrative operations is such that few resources are available for investment in projects of this kind. Ironically, however, there is a wealth of relevant data available in Universities - to the point of information overload. One view of this is that the current University information systems are oriented more towards senior management strategic decision making than the relatively small focus groups involved in this project. In this respect, a major benefit of the project has been to identify the key information needed at School level and it may be possible in future to influence the design of University information systems accordingly.

Meanwhile it is anticipated that the tables will be of benefit in enabling Schools to make relative judgements on the 'success' of their activities and make more informed decisions as a result. Of course, at the moment the tables are very much tailored to the needs of Australasian Schools, but there may be sufficient commonality world-wide across similar Schools to encourage further development for international comparisons. The burgeoning use of electronic media, as well as increased competition, make this a likely and attractive proposition for many.